



1150153 - R8 SDMS

April 18, 2008

Sent via email

Eric Johnson  
U.S. Environmental Protection Agency  
Region 8, 8ENF-T  
999 18<sup>th</sup> Street, Suite 300  
Denver, Colorado 80202-2466

RE: Progress report for March 2008 activities - Hecla Mining Company Apex Site (EPA  
ID No. UT982589848, Docket No. RCRA-8-99-06)

Dear Mr. Johnson:

Per paragraph 64 of the Order, enclosed is a copy of the March 2008 progress report for your records.

If you have any questions please do not hesitate to call me at (208) 769-4112 or e-mail at [pglader@hecla-mining.com](mailto:pglader@hecla-mining.com).

Sincerely,

A handwritten signature in black ink, appearing to read "P. Glader", written over the word "Sincerely,".

Paul L. Glader  
Manager Environmental Services

Encl

Cc: HMC Legal Dept (w/o attachments)  
John Jacus, Esq. (DG&S)



April 18, 2008

Sent via U.S. Mail

Glenn Rogers, Chairman.  
Shivwits Band of Paiute Indian Tribe  
P.O. Box 448  
Santa Clara, Utah 84765

John Krause  
Bureau of Indian Affairs Phoenix Area Office  
U.S. Department of Interior  
P.O. Box 10  
Phoenix, AZ 85001

Kelly Youngbear  
BIA Southern Paiute Agency  
P.O. Box 720  
St. George, UT 84771

RE: Progress report for March 2008 activities - Hecla Mining Company Apex Site (EPA ID No. UT982589848, Docket No. RCRA-8-99-06)

Dear Chairman Rogers, Mr. Krause and Ms. Youngbear:

Per paragraph 64 of the Order, enclosed is a copy of the March 2008 progress report for your records.

If you have any questions please do not hesitate to call me at (208) 769-4112 or e-mail at [pglader@hecla-mining.com](mailto:pglader@hecla-mining.com).

Sincerely,

A handwritten signature in black ink, appearing to read "P. Glader", written over a horizontal line.

Paul L. Glader  
Manager Environmental Services

Encl

Cc: HMC Legal Dept. (w/o attachments)  
John Jacus, Esq. (DG&S) (w/o attachments)  
Eric Johnson (USEPA, Region VIII) (w/o attachments)



April 18, 2008

**MEMORANDUM TO:** Apex File

**COPIES TO:** distribution

**FROM:** Paul Glader

**SUBJECT:** Progress Report No. 47 for period ending March 31, 2008;  
Pond 2 Final Closure - Apex Site, Washington County, Utah

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### Summary

The monthly visual inspection, per the long term monitoring plan, was conducted on March 23. No unusual conditions were noted.

Erosion repair was started March 19 and concluded March 21 (see attached photos). The primary area of repair was the northern edge of the area. Imported riprap was used to armour the lower slope to prevent future erosion. Doug Gibbs, MEI, was onsite to supervise the work. The work was completed by Desert Hills Construction.

The entire site was revegetated between March 24 and March 26. Due to damp conditions, revegetation was not undertaken on the top of the impoundment. Mulch was worked into the soil, the site was seeded and watered via water truck. Ingrid Bamberg, Bamberg Ecological, was onsite to supervise and conduct the revegetation (see attached report). The work was completed by Desert Hills Construction.

### Discussion

1. Surface Monitor Results To Date – The settlement monitoring monuments were surveyed by Alpha Engineering on March 12. Since monitoring of the top surface began (Jan 4, 2006), there has been no appreciable movement in the surface monuments at the Apex site. There are no concerns to date with settlement. As expected with long-term consolidation, the data shows that settlement rates are decreasing over time.

### Work Planned for Next Period

1. Visual inspection of site.
2. Settlement monument survey – quarterly basis.

## **Sampling and Analysis in Period**

### *Field Tests, Inspections & QA/QC*

1. The monthly post closure site inspection was done on March 23.

## **Cost and Schedule**

Committed costs in March 2008 were \$38,000. Total project to date committed is approximately \$1,286,000. The cost report for March is attached.

Current status of the deliverables listed in the RCRA 7003 order includes:

<b>Deliverable</b>	<b>Reference Paragraph</b>	<b>Due</b>	<b>Remarks</b>
Post warning signage around perimeter of site	57	<b>15 days after effective date of order</b>	Work completed on March 9, 2004
Begin Implementation of closure plan	63	<b>45 days after receipt of filing of order</b>	Work started on February 23, 2004
Monthly progress reports	64	<b>28<sup>th</sup> day after close of month</b>	Requirement in effect after order is filed.
Completion report	66	<b>30 days after completion of all closure plan tasks</b>	Construction completion report submitted on 3/13/2006. A follow-up report to be issued after end of monitoring period.

The update of the schedule milestones includes:

<b>Milestone</b>	<b>Target</b>	<b>Actual</b>	<b>Remarks</b>
Issue bid package – Phase I (Sump Drains)	6/14/04	<b>6/15/04</b>	Portion of RFP materials issued at pre-bid on 6/14/04; remainder sent via courier
Issue RFP package – Phase III	6/24/04	<b>6/24/04</b>	
Award contract for Phase I	6/24/04	<b>6/29/04</b>	Date contract was shipped to Hughes
Pre-bid meeting – Phase III	7/19/04	<b>7/19/04</b>	
Start Phase I (Sump Drains) construction	7/12/04	<b>7/19/04</b>	
Start Phase II (Evaporation)	7/19/04	<b>7/29/04</b>	
Receive bids for Phase III	8/2/04	<b>8/2/04</b>	
Re-bid Phase III contract package	April 2005	<b>4/27/05</b>	Date bid package was sent to Hughes
Start Phase III construction	End of August 2005	<b>8/29/05</b>	Start of contractor mobilization
Complete Phase III construction	Dec 23rd 2005	<b>12/23/05</b>	Completion of contract scope of work
Issue Construction Completion Report	Week of 3/13/2006	<b>3/13/06</b>	

## **Supplemental Attachments**

1. Erosion repair photos, by D. Gibbs, MEI.

2. Revegetation report, by I. Bamberg, Bamberg Ecological.
3. Monument monitoring March 12, 2008, Alpha Engineering Company.
4. March 2008 cost report.

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Center at (303) 312-6473.







**BAMBERG ECOLOGICAL**  
**Environmental Consulting Services**

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April 11, 2008

Mr. Paul Glader  
Hecla Mining Company  
6500 N. Mineral Drive, Suite 200  
Coeur d-Alene, Idaho 83815-9408

Re: Summary of Revegetation Efforts to Date at Apex Site

Dear Mr. Glader:

This letter is to document the revegetation efforts to date at the Apex Site near St George, Utah in Washington County, during early 2008. The Apex Site is a former mill site within the Shivwits Indian Tribal Lands with office, processing, and accessory buildings. The site is located in southwestern Utah, northwest of the town of St. George and Interstate 15. A series of processing ponds were utilized when the site was active; however, the majority of these have been decommissioned and buried.

Hecla Mining Company leases one of the former ponds on approximately 7 acres. The pond has been reclaimed with a synthetic liner and dirt cap; the sides are stabilized with a rock riprap surface. The site was previously seeded but almost no vegetation is present, so this is a second seeding effort for this pond enclosure. The top of the pond was not seeded or otherwise disturbed out of concern for disturbing the liner.

**CLIMATE**

The main difficulty with revegetation of this site is the arid climate. According to local residents, the area has experienced a succession of drought years with lower than normal rainfall. Several fires have also denuded the area and surrounding landscape. However, this last winter and early spring have experienced a series of rain and snow events. Therefore, the climate has been favorable this year for revegetation. A rain-storm occurred over the March 29-30 weekend preceding the seeding event, the total amount of precipitation was not measured.

**SOIL STATISTICS**

The soil cap used on and surrounding the pond is of poor quality for plant germination and growth. A laboratory analysis of the soil was performed and reported the soils very low in basic plant growth nutrients; specifically nitrogen, phosphorus, and organic matter

## **BAMBERG ECOLOGICAL**

### **Environmental Consulting Services**

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(see lab results at the end of this letter). To improve soil quality, mulch was added to the soil. The mulch was a mixture of aged cow manure and fine-chipped wood. The cow manure will provide a concentrated source of plant-available nutrients over several years. The wood chips will improve the soil water absorption rate and water holding capacity.

#### **GROUND PREPARATION**

On March 24 and 25, 2008, the ground was prepared prior to seeding by ripping the surface and mixing in the mulch. A skip loader was used to rip the soil surface. The ground was soft due to recent snowmelt and a rain the prior weekend. However, large rocks were present interfering with deeper ripping of the soil in some places. A front-end loader was used to distribute the mulch (550 yards over the approximately 3.5 to 4 acres; see Photo 1) and then the skip loader was used to mix the mulch into the soil.



Photo 1. Front end loader distributing mulch in foreground, skip loader mixing soil and mulch in background, Apex Site, March 25, 2008.

#### **SEEDING**

## **BAMBERG ECOLOGICAL**

### **Environmental Consulting Services**

A desert seed mix designed specifically for this site was obtained from a commercial seed source<sup>1</sup> and is provided in Table 1. The seed species are native to the area and include both grasses and shrubs. The seed was hand broadcast and seeded at a rate two to three times the rate recommended by the seed company (96 lbs over 3.5 to 4 acres).

#### **WATERING**

Immediately following seed broadcast, the site was watered with a watering truck. The exact amount of water distributed was not recorded. In addition, another rainstorm event occurred within two days of seed distribution. The purpose of this was to both settled the soil and start the germination of the seed.

Respectfully,

Ingrid Bamberg  
Senior Ecologist

Table 1. Desert Seed Mix Used at Apex Mine, March 2008

<b>Name</b>	<b>% pure</b>	<b>Veg type</b>	<b>origin</b>	
<b>Galleta grass</b>	11.74	grass	TX	
<b>Slender wheatgrass</b>	11.71	grass	CAN	
<b>Indian ricegrass</b>	11.55	grass	MT	
<b>Sideoats grama</b>	11.22	grass	TX	
<b>Shadscale saltbrush</b>	9.63	shrub	NV	
<b>Little bluestem</b>	6.83	grass	TX	
<b>Fourwing saltbush</b>	6.36	shrub	NM	
<b>Winterfat</b>	5.06	shrub	NM	
<b>Bluegrama</b>	2.74	grass	NM	
<b>Nevada ephedra</b>	2.65	shrub	UT	
<b>Rubber rabbitbrush</b>	1.01	shrub	UT	
<b>Alakali sacaton</b>	0.92	grass	CO	

<sup>1</sup> Granite Seed Company, 1697 W. 2100 N., Lehi, UT 84043; Mix # 62967



## Soil Nutrient Laboratory Report

Lab No.: 08021218-01  
Date Rec: 2/12/08  
Reported: 2/20/08

Report To: Ingrid Bamberg

Company: Bamberg Ecological Environmental  
2822 Valencia St.  
Denver CO 80238

Sample ID: Sample A

Project: Apex Mine

Laboratory Results:		Sample Result	Low	Ave	High
Field Texture (EST)		Sandy Loam			
pH (units)		8.1	.....		
Salts (MMHOS/CM)		0.5	.....		
CEC Est. (MEQ/100G)		6.5	.....		
Lime (Quai.)		Medium	.....		
Organic Matter (%)		0.6	.....		
Organic N (lbs/acre)		16.1	.....		
Sodium (meq/100g Soil)		0.12	..		
<b>Available Nutrients (ppm)</b>					
Nitrate Nitrogen		1.2	....		
Phosphorus		4.6	.....		
Potassium		184.4	.....		
Calcium		4104.4	.....		
Magnesium		424.9	.....		
Sulfur		21.0	.....		
Boron		0.4	..		
Zinc		0.4	....		
Iron		6.3	.....		
Manganese		5.1	.....		
Copper		0.5	.....		

Note: Average Values are for Colorado Soils

### Fertilizer Recommendations

#### General Landscape

Nitrogen: 130 lbs/Acre  
Phosphorus - P2O5: 80 lbs/Acre  
Potassium - K2O: 0 lbs/Acre  
Sulfur SO4-S: 20 lbs/Acre  
Lime: 0 lbs/Acre

\*To convert recommendations to lbs/1000 sq. ft. divide by 40.

### Comments

Split Nitrogen Recommendations 2 to 3 Times Throughout the Growing Season.

3 to 4 Cubic Yards/ 1000 sq. ft. of Low Salt Compost May Be Beneficial.

240 South Main Street / Brighton, CO 80601-0507 / 303-659-2313  
Mailing Address: P.O. Box 507 / Brighton, CO 80601-0507 / Fax: 303-659-2315

08021218



## Soil Nutrient Laboratory Report

Lab No.: 08021218-02 Date Rec: 2/12/08 Reported: 2/20/08	Report To: Ingrid Bamberg	Company: Bamberg Ecological Environmental 2822 Valencia St. Denver CO 80238
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Sample ID: Sample B

Project: Apex Mine

Laboratory Results:		Sample Result	Low	Ave	High
Field Texture (EST)	Sandy Loam				
pH (units)	8.2	*****			
Salts (MMHOS/CM)	0.6	*****			
CEC Est. (MEQ/100G)	0.2	*****			
Lime (Qual.)	Medium	*****			
Organic Matter (%)	0.6	*****			
Organic N (lbs/acre)	14.8	*****			
Sodium (meq/100g Soil)	0.15	**			
<b>Available Nutrients (ppm)</b>					
Nitrate Nitrogen	< 0.1	***			
Phosphorus	4.2	*****			
Potassium	106.4	*****			
Calcium	4015.3	*****			
Magnesium	507.2	*****			
Sulfur	14.9	*****			
Boron	0.5	**			
Zinc	0.2	*****			
Iron	4.8	*****			
Manganese	1.6	*****			
Copper	0.2	***			

Note: Average Values are for Colorado Soils

### Fertilizer Recommendations

#### General Landscape

Nitrogen: 130 lbs/Acre  
Phosphorus - P2O5: 80 lbs/Acre  
Potassium - K2O: 0 lbs/Acre  
Sulfur SO4-S: 40 lbs/Acre  
Lime: 0 lbs/Acre

\*To convert recommendations to lbs/1000 sq. ft. divide by 40.

**Comments** Split Nitrogen Recommendations 2 to 3 Times Throughout the Growing Season.

3 to 4 Cubic Yards/ 1000 sq. ft. of Low Salt Compost May Be Beneficial.

240 South Main Street / Brighton, CO 80601-0507 / 303-659-2313  
Mailing Address: P.O. Box 507 / Brighton, CO 80601-0507 / Fax: 303-659-2315

08021218



## Analytical Results

Report To: Ingrid Bamberg  
Company: Bamberg Ecological Environmental Serv.  
2622 Valencia St.  
Denver CO 80238

Task No: 08021218  
Date Received: 2/12/08  
Reported: 2/20/08  
Client PO:  
Client Project: Apex Mine

Customer Sample ID: Sample A  
Sample Date/Time: 2/12/08

Lab Number: 08021218-01  
Matrix: Soil - Ag

Test	Result
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Total Metals - Dry Weight Basis

Arsenic < 0.05 mg/kg

Customer Sample ID: Sample B  
Sample Date/Time: 2/12/08

Lab Number: 08021218-02  
Matrix: Soil - Ag

Test	Result
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Total Metals - Dry Weight Basis

Arsenic < 0.05 mg/kg

DATA APPROVED FOR RELEASE BY

Page 1 of 1

240 South Main Street / Brighton, CO 80601-0507 / 303-659-2313  
Mailing Address: P.O. Box 587 / Brighton, CO 80601-0507 / Fax: 303-659-2315

08021218



# **ALPHA ENGINEERING COMPANY**

148 East Tabernacle, St. George, UT 84770 • (435) 628-6500 • Fax: (435) 628-6553

**HECLA MINING SITE  
MONUMENT MONITORING  
(AS-BUILD DATE: MARCH 12, 2008)**

<b>Monument #</b>	<b>Northing</b>	<b>Easting</b>	<b>Elevation</b>	<b>Remarks</b>
#1	10121.38	10130.70	3685.59	Top alum. cap
#2	10145.98	10277.49	3685.73	Top alum. cap
#3	10092.35	10417.33	3685.97	Top alum. cap
#4	9966.65	10489.53	3685.70	Top alum. cap
#5	9865.67	10437.08	3686.44	Top alum. cap
#6	9807.87	10293.15	3686.29	Top alum. cap
#7	10013.34	10283.62	3686.94	Top alum. cap
#8	9989.95	10130.36	3685.69	Top alum. cap
#9	9862.83	10149.33	3685.61	Top alum. cap
#10	10006.02	9997.82	3678.03	Top alum. cap
#11	9964.22	10309.03	3684.57	Top alum. cap

Activity	2004 Budget	Revised Budget May 2004	Committed Cost this Period	Cumulative Committed Cost To Date 3-31-08	Forecasted Cost To Complete	Forecasted Final Cost	Remarks on Forecast to Complete
<b>Phases I through III (Completed February 2006)</b>							
Phase I - Drain Excess Liquid From Tailings	189,200	72,700		67,928	0	67,928	
Phases II, IIA + IIB - Evaporate Excess Liquid	6,000	8,000		242,882	0	242,882	
Phase III - Regrading & Final Cover System	337,000	342,050		504,742	0	504,742	
Field Indirect Costs	184,500	213,568		378,517	0	378,517	Includes Jan + Feb 2006 long term monitoring costs
Media Costs	18,700	18,700	0	33,324	0	33,324	
<b>Subtotal Phases I through III</b>	<b>715,400</b>	<b>655,018</b>	<b>0</b>	<b>1,227,393</b>	<b>0</b>	<b>1,227,393</b>	
<b>Long Term Monitoring (through FY 2010)</b>							
Site Inspections			297	4,958	2,297	7,255	
Settlement Monitoring			675	5,400	4,725	10,125	
<u>Consultant Support:</u>							
Annual Geotechnical Engineer Inspections			0	2,495	18,100	20,595	Includes settlement monitoring data analysis
Vegetation Monitoring			0	0	20,000	20,000	Allowance for surveys in FY 2008 - 2010
Site Conditions Review - MEI			2,142	6,474	3,327	9,801	
Site Conditions Review - SVL Analytical			0	2,079		2,079	
Erosion Repair Review - MEI			2,927	2,927	573	3,500	
Revegetation Review - Bamberg					3,500	3,500	
<u>Maintenance:</u>							
Erosion Repair Allowance			21,941	21,941	7,500	29,441	Erosion repair conducted April 2008
Revegetation Allowance			9,912	9,912	10,000	19,912	Revegetation conducted April 2008
<u>Media Project Management Costs:</u>							
Labor			0	2,266	7,909	10,175	
Travel expenses			0	0	1,312	1,312	
<b>Subtotal Long Term Monitoring</b>	<b>0</b>	<b>0</b>	<b>37,894</b>	<b>58,452</b>	<b>79,243</b>	<b>137,695</b>	
<b>Total Pond 2 Final Closure</b>	<b>715,400</b>	<b>655,018</b>	<b>37,894</b>	<b>1,285,845</b>	<b>79,243</b>	<b>1,365,088</b>	